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MENTAL GYMNASTICS,

— OR —

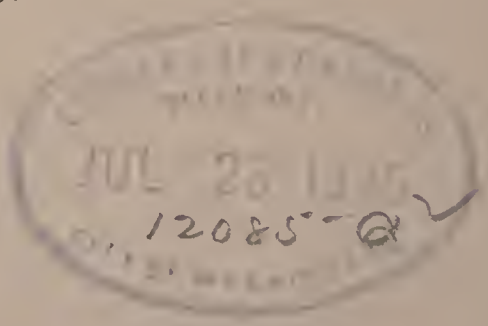
LESSONS ON MEMORY.

— BY —

ADAM MILLER, M. D.,

— AUTHOR OF —

Life in Other Worlds; Plain Talk to the Sick; Mistakes of Doctors; Laconography; etc.



CHICAGO,
1885.

AUTHOR'S NOTE.

The author of this treatise on Mental Gymnastics or Memory Culture, agrees to furnish written instructions to all who purchase it, if anything appears obscure and is not fully understood.

Copies will be mailed, with written instructions, on the receipt of the price, $1.00.

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PREFACE.

The author of this work does not claim to have originated an entirely new system for the cultivation of the memory. But he does claim to have simplified some of the old and complex systems, contained in books now out of print; or in large and expensive volumes, not in the reach of those most interested in this subject.

Several small works have been published, based on the writings of Prof. Francis Fauvel-Gourand, and almost literally copied from his work without giving him credit for his arduous labors in this department of literature. Writers on this subject have left it in such obscurity, that persons, after purchasing the books, have laid them away as useless, because they could not understand the few brief and indefinite sketches called memory lessons.

The following pages have been arranged with new and original formulas by the author, more with a view to instruct the student in the noble faculty of memory, than to embellish the pages with fine language and obscure expressions.

We aim to make the subject as plain as possible, and to bring it within the comprehension of ordinary minds, so as to lead the student from the first simple lessons to the more complex without mental strain or effort, and by these mental gymnastics gradually to increase the strength of the memory. Instead of a

severe strain it will be a mental recreation and amusement, and will prepare the mind for more arduous labors in other departments of study.

The object is to bring the subject within the reach of all classes, and to make the study interesting and profitable to all. There is no business in life, and no department in literature, where a well cultivated memory may not be turned to a good account.

Our capacity for any kind of business is increased in proportion as our memory is able to retain the details of our business.

These lessons are valuable to those who are studying any system of short-hand writing, and especially to the system called Laconography.

The author, now advanced beyond the ordinary years allotted to men in this life, has so cultivated his memory, that it is much stronger and more reliable than it was in the earlier years of his life, and all as the result of the training recommended in these pages. A well employed and active mind and a good memory well stored with useful knowledge are very important factors in human happiness.

While it does not bring back the years that have passed into the future, it lifts the mind above the wasting influences of time to a great extent, and often turns the gloomy winter of old age into the warmth and brightness of a summer's morning. It will help to smooth the wrinkles of a furrowed brow, and give intelligent expression to the eye that is growing dim with age. Try the process we recommend and you will be satisfied.

A. M.

CHAPTER I.

GENERALREMARKS ON MEMORY.

Without memory our lives would be a dreary waste. The past would be a blank. The present a fretful and perplexing hour. Without a recollection of the past we would find very little encouragement in looking into the future. With the storehouse of our memories well filled with past events, many pleasant scenes of our past lives are brought in review before us. Even our sufferings and disappointments, when recollected in connection with the relief that may have come to us, and our deliverance from the apparent accidents and dangers to which we found ourselves exposed, all have a tendency to encourage us for the future. A recollection that the same or similar help may come to us in the future that sustained us in the past, will enable us to move forward in the struggles of life and trust in the same powers and forces for protection that sustained us in the past. All persons are endowed with this faculty, but some in a much higher degree than others. While there are natural endowments, and some have much better memories than others, it is undeniably true that by neglecting to exercise and cultivate this faculty it becomes enfeebled, while, on the other hand, by a proper course of train-

ing and a systematic exercise, the memory may be strengthened beyond the highest conceptions of those who have not made suitable and systematic efforts in this direction. The reason why many persons in advanced years complain of a feeble memory is an inattention to the common concerns of life, and a wantof effort to treasure up the ordinary occurrences. The idea of many that because they have lived a certain number of years and arrived at an age where the mental faculties generally become enfeebled, has caused many to feel prematurely old, and a general loss of bodily and mental vigor follows a determination that it must be so, because it is the natural order of things. Many live and finally go down to their graves without being aware of the wonderful undeveloped powers they possessed, which, if they had been properly cultivated, would have contributed much to the support of the physical organism. There is such an intimate connection between the body and the mind that the lack of a proper treatment of the one will unfavorably affect the other.

We have gymnastics for physical culture and find, from experience and observation, that much is gained by a proper exercise in muscular development.

The memory is more susceptible to improvement by proper exercise and training, than the body. It is that which possesses the body and is destined to survive its final dissolution and decay. The dweller in the house is of more importance than the house, so the mind of man, of which memory is a part, is of more importance than the body in which it dwells.

We talk of a mind well stored with knowledge, but we must not forget that memory is the storekeeper, and not only holds the key to the storehouse but arranges all the shelves and drawers and the different compartments for storing away the treasure accumulated by mental efforts. The mind selects and brings in the treasures, sometimes secures them by hardest toil and perilous efforts. The memory takes the treasures and stores them away on different and appropriate shelves, or in different drawers, and so marks them and the place where they are deposited, that they can be looked at any time when they are wanted.

What advantage would we have in the accumulation of wealth in silver and gold and diamonds and other precious things that make men rich, if we brought them home and handed them over to our steward or servant for safe keeping, and he put them where they never could be found? Suppose a man had millions on millions of treasures hidden in this way that he nor no one else could ever find; what advantage would they be to him? None. He might say I have lost them because I have not provided a proper place to store them away. I had no systematic arrangement in my treasure house, and now they are forever beyond my reach. In this way, from a want of a properly arranged house to store away the treasures of the mind, thousands of precious gems have been lost. We may deeply regret the loss, but this will not return to us the lost treasures. The only safe and proper way is to guard against these

losses in the future. Why have safes with various compartments been invented with bars and bolts and locks, but to protect our goods from the hands of the thief and the robber, and also with a view to have them at our command at a moment's notice for our use.

The thief of time is watching us every hour to snatch away the accumulations of our mental toil. Much has been taken from us and laid in the grave of oblivion, but there are still vast outlying fields where we can gather more, and there are means provided to keep our gathered treasures securely.

But some one advanced in years may say, "I am too old to commence building a storehouse to treasure up my mental wares." You need not build a new house. The old one is good enough if you will only go to work and make some repairs; and when you begin this repairing process you will be surprised to find how easy the task will be. The sweeping out of a few dark corners of the old building will soon throw light over other parts.

The opening of a few windows will let in the light and make everything cheerful about the old homestead where the higher nature has long dwelt in gloom and sadness because the house was so much out of repair.

How sad it is to think that thousands of persons, when they arrive at the age of forty-five or fifty years, think that their time for improvement is past, and under this impression they neglect mental culture, and with this neglect the body soon becomes like a house uncared for.

We build the house we live in, that is, our inner and higher nature to such an extent controls organic matter so as to build up and nourish those parts most suited for mental activity, where no other abnormal or disturbing agencies interfere. This is especially true in reference to the growth and development of the brain, which is the seat of mental power. Proper training not only improves the mind but enlarges the dwelling place where the mind resides, acts, and operates.

The bright, expressive and speaking eye; the elevated forehead; the intelligent features; all indicate an intelligent working power or force superintending the material organization. This working force in the intellectual realm is under the control of the human will. If we determine that the mind shall lie dormant and the memory shall become feeble and inactive from a want of proper exercise, the inevitable results will follow. On the other hand, if we determine that the memory shall be retentive, and that the shelves in our memory's storehouse shall keep our deposited treasures, we have only to keep these shelves and drawers in good order, and have our deposits so marked and labeled as to find them at any time we may wish to use them. If we can not immediately find the key to unlock our repository and find the gems of thought, and all the beautiful and useful things of the past, we must tie a string to the treasure and keep the string in view, and when we get bewildered and confused we can follow up the string or wind it up into a ball, till it leads up to our

repository, and to the very drawer or shelf where our treasure may be found. If we have many shelves in memory's storehouse, and a great variety of different things stowed away, and these of different qualities, and require many strings by which to trace our way to our hidden treasures, we can very easily attach a mark or place a label on the end of each string, each separate mark directing up to the object we wish to find.

There are many plain and simple things that the mind may be placed on, and that the memory can retain, that may well be compared to a single thread, and by association of one thing with another, either from a striking similarity or dissimilarity, the thread may be followed by winding it into a ball or unwinding it from a ball.

As an illustration of following up the thread; we will commence with a white woolen thread: The wool leads us to the sheep. The sheep is an emblem of innocence; here we come into a large field, innocence, playfulness, pastures, flocks, woolen garments, cold weather, blankets, carpets and ornamented parlors. Or, if we wish to run in another direction, the thread will lead us to mutton, to a good dinner; to the dinner party; to the names of those present; to their conversation; and many other things we may wish to bring in review before us.

A silk thread will lead us to the silkworm, the mulberry tree, the manufacturing establishment, the silk dress, the beautiful lady that we saw wearing it, her sparkling eye, her wit, her diamonds, her language,

home, fortunes or misfortunes, all from the end of a small silk thread.

A cotton thread will lead us to the cotton fields, the spinning and weaving, the factory girls employed in the mills, the great variety of cotton goods, the sails of ships, a trip across the ocean, the commerce of different and distant countries, the ties that bind nations in one common brotherhood.

A linen thread will conduct us back to the field where flax grows, to the spinning and weaving of linen, to Irish linen, to the thousands of toilers who produce the beautiful fabric, to the weaver of the linen, to the rags of worn out garments, to the paper mill that manufactures the rags to paper, to the beautiful white letter paper on which our correspondence to loved ones may be written.

A hemp string leads to the fields, the rope-walks where it is manufactured into cords and ropes, to the rigging of a ship, hauling and directing the sails, carrying the commerce of the world to their destined ports.

A red, or scarlet thread, will lead us to something fiery or intense, ardent, high tempered, wars and bloodshed, or such things as will excite or inflame the passions.

A blue thread will lead one's mind up to the pale blue sky, in which the clouds are floating and behind which the stars and planets appear to us to be pursuing their nightly march; we think of distance and magnitude, of time measured off by their revolutions, and in bewildering amazement we are led to the infinite

Power that controls and directs all things from an infinite purpose.

A white thread is the emblem of innocence and purity; it leads us to the lily of the valley, flourishing near by the Rose of Sharon. This will bring to the mind a train of beautiful and lovely things. How delightful in the stillness of the night to take hold of the beautiful white thread and begin to wind it up into a ball or follow it back along the path we have traveled until we get back to the days of youth and childhood, and have the innocent amusements of our younger years pass in review before us.

The tear of sorrow may start from the eye at the recollection of friends long since gone from us; but even this opening of the fountains of affection may bring relief in the hour of affliction,

A black thread may lead us into the dark, but darkness is not always dismal. It is necessary for us as well as light. Long winter evenings bring us many comforts that we could not have under the rays of the burning sun. It is true we might travel along the line of a dark thread into dismal and gloomy regions, but we should always prefer to go along the line of the pleasant and the beautiful to feed the memory on that which will give us higher views of our lives and destinies.

The questions may arise in the minds of some "What will be the advantage of all this?" "What can I do without an active memory to follow up these different threads?" We can easily see where the advantage of such a mental exercise is found. It is an

effort to build up and strengthen the memory, or prepare the different shelves in this storehouse for repositories of our mental wares. Instead of leaving the mind a vacant blank and tossing restless upon our beds in the stillness of the night, we may start the wheels of memory running backward over the past, and stop at the different way stations with such delight and pleasure that we will soon be lulled to sleep, perchance to dream some pleasant dreams, and awake with better opinions of life than when our minds were blank and the shelves of our memories' storehouse in a dilapidated condition.

Now we would advise any one in lonely hours to take hold of the end of a string, one of those we have referred to; the white for instance, and start back in a contemplative mood and stop to linger a while, around every point of innocence, beauty and purity. Then let it stretch out into the future. Follow it up and on until it reaches within the very gates of the celestial city, or, if you do not wish to go quite so far just now, then take another thread and follow it along the line of which it is emblematical. Do not hasten too fast from one point to another. When you find some event in your past life linger around it as long as pleasant memories continue to come up, in group or single, and then pass on to other points; and in this way the scenes of the past will come up in succession as old associates that had appeared lost to you, and entirely faded from your memory. To those who have never made an effort to recollect the scenes of the past by such associations it will be surprising to

find the mind pictures like beautiful panoramas pass in review before them.

The memory is like the blacksmith's arm, which has grown strong from using it. There is no faculty of the human mind so susceptible of improvement as the memory, and none so much neglected.

Some persons are naturally endowed with good memories while others are deficient, and must depend on culture for improvement.

Before letters were invented for the purpose of recording the events of life and our historic narratives, the memory must have been much stronger than it is now. The transactions and constantly recurring events of life had to be carried in the memory instead of recorded in books.

Many of the historical narratives now found in books of history, both sacred and profane, must have been preserved in the storehouse of memory for ages before they were permanently recorded in books, now found in our libraries.

There are many marvelous instances on record of extraordinary memories among the ancients. It would be out of place here to enter into a detailed account of the different prodigies of memory. Speeches were committed from once having been heard, lectures, poems, and the most difficult problems the human mind can grapple with, have been retained in the memory from having only once heard them repeated. But these are rare instances, and not a common inheritance of mankind. The amount of memory we have is a natural endowment, or a working

capital on which we can improve to a marvelous extent. With every advancement we make we increase our stock in trade, and add to our wealth which no thief can steal, and no wreck of earthly fortune can destroy.

Many in advanced years can look back into the past and still see some of the treasures in the storehouse of memory, laid there in their youthful days; but with regret have to confess that recent events soon pass from their memories, and that they have no power to retain them. These persons may recollect the beautiful flowers that grew in well cultivated gardens and fields; but these are now a desert waste from a want of proper cultivation.

The mental effort in associating one thing with something that has a correspondence with some historic event, so as to call to mind not only the event itself but furnish a word that will give the exact and unmistakable date of the event, must have in itself a good effect on the memory.

It is this habit of associating one thing with another that gives a healthy exercise to the brain, by which its functions are strengthened and also has a salutary effect on the entire physical human organism. The first symptoms of decline are seen in the loss of mental vigor. This affects very unfavorably the entire nervous system, and the intimate connection between the nerves and the muscular structure soon causes a general breaking down of all the physical energies.

There are many persons whose mental vigor is as

strong from sixty-five to seventy-five years of age as in their youthful days; but upon inquiry it will be found that all such persons have kept their minds actively employed and cultivated, especially the faculty of remembering things.

In conversation with a lady of superior intelligence and attainments, not long since, she told me that in consequence of a long and severe illness she lost her memory. On her health returning she found she could not recollect the commonest events of life. At this she became alarmed and immediately commenced a systematic course of cultivating her memory. She now has a good memory, but told me, "It is all cultivated." Had she not been endowed with a strong will power, and superior intelligence, what would have been the result? The answer to this question is plain. This lady, thus deprived of her memory, would have relapsed into a state of imbecility, bordering on idiocy, if she had not determined to regain her lost memory by a systematic effort to obtain this desirable end.

The restoring process of the wonderfully constructed organism must not be attempted by a severe strain on the body or mind; but by a gentle, easy, and systematic training. This cannot be forced by slashing and driving; but by a process that will conserve the remaining forces and add new powers to those already possessed.

Close observation and experience have taught us valuable lessons on this subject.

There are some persons now in advanced years

with memories fully as strong, if not stronger than it was in the earlier days of their lives. They can look back on the line along which they have traveled, and not only see the wrecks and ruins of thousands that have prematurely fallen in their journey from a want of attention to some plain rules that should govern our twofold nature of matter and spirit, or body and mind; but also see where their own feet had ventured near the precipice where thousands have fallen.

It is not intended here to convey the idea that we can make ourselves immortal, so far as our existence on this earth is concerned, by memory, or mental culture. It is simply purposed to show that by proper observance of certain laws we may prolong our lives, and make them more pleasant to ourselves, and more agreeable to others.

When men have valuable machinery or mechanical contrivances which they run for profit or pleasure they will carefully notice every symptom of disturbance in the movement of the different wheels, springs and weights, well knowing that if repairs are not promptly attended to the whole will soon run down and become a mass of useless material. Why not watch with eager eye the marvelous workings of this complex structure of the human organism which can only retain the higher or spiritual power by keeping in a good running condition.

The structure of the nervous system in the human constitution contains in itself a world of wonders. These channels of our vital forces have been laid with a master hand and their healthy operations have been

left to our guardian care, and we are, to a certain extent, responsible for this trust. In mechanics we know that machinery is liable to rust and become useless from a want of proper attention; even our finest ornaments need occasional burnishing and polishing to keep their brilliancy and luster. Everything ornamental and useful demands attention to keep it in perfect order. How much more should we be concerned to keep the noblest faculty of our higher nature in an active condition.

When we awake to a sense of our duty to ourselves, and learn how to take care of and preserve that which is a natural endowment of humanity, we shall hear less complaining about the loss of memory and its consequent annoyance to us in daily life.

We speak of what we know. These rules which we recommend to others are not the wild dreams of a fanciful imagination. They are the result of careful observation and study for many years. Their application can only result in good to all who make the experiment for themselves.

The treasures of the intellect are of more value than all the hoarded accumulations of material wealth. We carry them with us, not only through this life, but to the believer in a conscious existence in a future state it amounts to more than a mere conjecture that these accumulated treasures of useful knowledge will be a rich inheritance to us in that unending state of existence where there will be an endless progression in knowledge, and increasing knowledge will give increasing power.

The cultivation of the memory can only be accomplished by a systematic effort on a well-defined course of instruction, and following certain rules of association connecting one thing with another, so as to find the names, places, and properties of things by attaching them to something which we can follow along the line of association.

CHAPTER II.

PHONETIC AND HOMOPHONETIC WORDS FOR FIGURES.

We commence with the letters of the alphabet which, in their construction, resemble figures, and can be used for numbers to any desirable extent. Figures, when standing promiscuously represent nothing, only as they are used as numerators of objects, or to express numbers. It is difficult to retain figures in the memory, especially where large numbers are presented, but words and sentences representing figures can easily be retained in the memory. In this way we can place numbers, dates, chronological tables, periods of important events in history; by selecting a familiar word that gives us the desired number. Familiar phrases may be selected to represent any desirable amount of figures, as high as the mind is capable of running them.

Several systems have been invented in which letters were used for numbers; but no one has approached so near to a complete system as Prof. Gouraud.

With some variations, we adopt his classification of words and articulation sounds corresponding with the different letters to represent figures and numbers.

The resemblance between the letters and figures will help the memory to retain them.

We select letters from our English alphabet to epresent the figures

0,	1,	2,	3,	4,	5,	6,	7,	8,	9.
z,	t,	n,	m,	r,	l,	ch,	k,	f,	p,

The similarity between the figures and the letters may be easily recognized.

The first articulation of z is cipher or zero, and represents 0. This, with all the other letters representing figures, has the vowel e added to make the articulation complete.

Z—or ze, is the first articulation of *z*ero, or cipher 0.
T—or te, with one single stroke represents - - 1.
N—or ne, with two strokes represents - - - 2.
M—or me, with three strokes represents - - - 3.
R—or re, is the fourth letter of *four* - - - 4.
L—or le, Roman numeration is 50 - - - - 5.
Ch—or che—c resembles the figure 6 - - - 6.
K—or ke, form of key upside down, resembles 7 7.
F—or fe, the written f like an elongated 8 - - 8.
P—or pe, inverted, looks like 9 - - - - - 9.

In addition to these simple articulations of single letters, we have other letters and combinations of letters that resemble these sounds and are articulated accordingly.

The letter d resembles the sound of t, and is articulated the same. The letter j, when inverted, bears some resemblance to the figure 6, and also in sound resembles the ch. This, and the soft sound of g, are articulated like *che*, and represent the figure 6.

The s, as an apostrophe, in the possessive case, is not articulated. The t, before h, keeps the value of

t. In words where the c takes the sound of k, it has the articulation of k.

In all words where the vowels a, o, u follow c, it takes the articulation of k, and when the sound of k is distinctly heard it represents the figure 7, but in words where the k is silent, as in *knowledge*, *knight*, *knife*, etc., it has no numerical value. The hard sound of g, as in go, give, good, gloom, glad, etc., is articulated like k, and represents 7. The same in words ending in ing. The b has a sound resembling p, and the sound is produced by the same motion of the lips, and therefore represents the figure 9.

The vowels and the letters h, w, and y have no numerical value. In all combinations of letters where any of these sounds are distinctly recognized they are articulated as figures, according to the rules above stated.

For instance, in cases where the ph has the sound of f, as in phosphorus, photograph, Philip, the p loses its distinct sound and the combination with h gives the sound of f, and represents the figure 8.

PHONETIC SOUND.

The addition of the vowel e to the letters articulated in numbers gives the phonetic sounds of

te, ne, me, re, le, che, ke, fe, pe, ce.
1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

To these we add

che 6, ge 7, ghe, que 7, ve, phe 8, be 9, ce 0.

Where two identical letters come together in words such as *mall*, *full*, *matter*, *will*, *mill*, the t w

letters are articulated as one, me le 35, fe le 85, me, te, re, 314, le 5, me le 35.

Where two similar letters occur with two distinct sounds, both sounds are articulated into figures and have their numerical value.

The word suggest is translated ge, che, se, te, 7, 6, 0, 1. While accident will be translated ke, se, de, ne, te, 7, 0, 1, 2, 1. The same rule is observed in compound words having two similar letters joined by a hyphen, as in book-binder, be, ke, be, ne, de, re, 979214.

In words where the t occurs, but has no distinct sound, it is of no numerical value, as in watch, match, latch, che 6, me, che 36, le, che, 56.

These rules, with some variation, are according to those laid down in GOURAUD'S Philosophical Classification of Homophonic words of the English language, and with a little attention will be easily understood.

CHAPTER III.

FIGURES REPRESENTED BY LETTERS AND HOMOPHONETIC SOUNDS.

The following table gives words for numbers from 1 to 100.

The rule for representing figures by words, once understood, will enable us to represent any number of figures in statistical tables by word formulas, or to associate some object with any of these numbers, so as to recollect it in order, and in the numbers we associate with the object.

1 Hat	17 Deck	33 Mummy	49 Harp
2 Honey	18 Dove	34 Merry	50 Lass
3 Home	19 Top	35 Mill	51 Lady
4 Hero	20 News	36 Match	52 Lawn
5 Hill	21 Want	37 Make	53 Elm
6 Hush	22 None	38 Move	54 Lawyer
7 Hack	23 Name	39 Map	55 Lily
8 Hoof	24 Near	40 Horse	56 Lash
9 Hip	25 Nail	41 Road	57 Elk
10 Woods	26 Inch	42 Rain	58 Loaf
11 Tide	27 Ink	43 Room	59 Leap
12 Tin	28 Knife	44 Warrior	60 Cheese
13 Tame	29 Nap	45 Rail	61 Shoot
14 Deer	30 Mouse	46 Irish	62 Chain
15 Dale	31 Mouth	47 Rock	63 Gem
16 Dish	32 Man	48 Roof	64 Cherry

65 Jelly	74 Augur	83 Foam	92 Pin
66 Shash	75 Gale	84 Fur	93 Poem
67 Cheek	76 Cage	85 Fowl	94 Bower
68 Chaff	77 Keg	86 Fish	95 Bell
69 Ship	78 Calf	87 Fig	96 Bush
70 Kiss	79 Cab	88 Fife	97 Bake
71 Cat	80 Face	89 Fop	98 Beef
72 Gun	81 Foot	90 Posy	99 Poppy
73 Game	82 Fan	91 Pad	100 Doses

The words in the above table are so arranged that it will be comparatively easy to commit them to memory. This task being accomplished, the figures which the words represent will be known as unmistakably as if they were seen. Any object to be remembered can be associated with the word giving the number, and by this process any number of promiscuous objects can be remembered in the order in which they are repeated to us, from 1 up to 100.

This table should be so committed to memory that when the figure is named the word can be given, and when the word is named the figure can be given.

Words can be remembered when figures and numbers would be forgotten.

When the principle of representing words by figures is clearly understood, any object or number of objects may be retained in the memory by the law of association.

CHAPTER IV.

MATHEMATICAL PROBLEMS.

Moving the knight of the chess board to sixty-four different squares without going twice into the same square until it returns to the starting point at number one.

It is said that this interesting problem was solved by the celebrated mathematician, Euler, after a number of years' constant experiment.

The chess-board is numbered from one to sixty-four

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64

The knight will have to pass into the squares in the following order, starting from number 1, move till he returns to the same number without stopping twice in the same square:

1, 11, 5, 15, 32, 47, 64, 54, 60, 50, 35, 41, 26, 9, 3, 13, 7, 24, 39, 56, 62, 45, 30, 20, 37, 22, 28, 38, 21, 36, 19, 25, 10, 4, 14, 8, 23, 40, 55, 61, 51, 57, 42, 59, 53, 63, 48, 31, 16, 6, 12, 2, 17, 34, 49, 43, 58, 52, 46, 29, 44, 27, 33, 18, 1.

When the key to this problem is understood, which can easily be committed to memory, any one can retain all these figures in the memory in the order in which they are given above.

The key to this problem will be found in another place.

I have taken the following from Francis Fauvel-Gouraud's Philosophical Classification of Homophonetic Words of the English Language, and arranged a formula of words by which this array of figures can be committed and retained in the memory.

Now the fact that a person past seventy-five years of age can accomplish this is proof that this system of memorizing is plain, and that the task is easily accomplished.

SECOND PROBLEM OF THE CHESS-PLAY.

It is said that Sysla, the Brahmin who invented the chess-play having caused such a high satisfaction to Sirham, the Indian King to whom he first presented it, the king told him to ask for any favor he might wish in recompense for his brilliant invention. Sysla modestly asked for *one single grain of wheat*, geometrically doubled upon itself from the first square of the chess-board down to the last, or sixty-fourth. The king, spurning

what he judged to be a nonsensical petition, unworthy of his royal munificence, ordered his grand treasurer to deliver up to Sysla one million of measures of wheat, or, upon the choice of Sysla, the sum of money equivalent to the price of the same number of measures. But the Brahmin having insisted upon the sacredness of the royal words which had given him the choice of his recompense, upon examination it was found that the number of grains upon the sixty-fourth square of the chess-board would be

Grains, 3 3 8 9 3 4 8 7 5 0 3 1 7 4 0 1 0 9 3 0;

and as one pound (*avoirdup is*) of wheat, of a good quality, contains an average of 13184 grains, one American bushel, or sixty pounds, will contain 791,040 grains, and one ton or 2,000 pounds, 26,368,000 grains. Divide the whole number of grains by these different proportions, and we find that it contains, in

Pounds, 2 5 7 0 8 0 4 5 7 3 9 6 6 4 7 5,
Bushels, 4 2 8 4 6 7 4 2 8 9 9 4 4 1,
Tons, 1 2 8 5 4 0 2 2 8 6 9 8 3;

which would be worth, at $1 the bushel, or $33.40 the ton,

$4 2 8 4 6 7 4 2 8 9 9 4 4 1;

which would load as many canal boats of 40 tons as

3 2 1 3 5 0 5 7 1 7 4;

or as many vessels of 300 tons, as

4 2 8 4 6 7 4 2 8 9;

which would make as many loaves of bread, of one pound, as

2 5 7 0 8 0 4 5 7 3 9 6 6 4 7 5;

and which would feed all the population of the globe, or 1,000-000,000 of souls, at one pound a day, or 365 pounds a year for each, as long as

7 0 4 3 years, 2 0 9 days.

EXPLANATION IN REFERENCE TO THE KEY TO THE PROBLEM OF THE KNIGHT OF THE CHESS-BOARD.

A certain classification of words will give the homophonetic sounds, by which each figure or number may be readily distinguished.

The words themselves mean nothing but the representatives of the numbers or figures passed over by the knight of the chess-board, from one to sixty-four. These key words are so arranged as to make it com-

paratively easy to remember them in the order in which they stand.

Bearing in mind that the vowels and the consonants h and w, have no numerical value, and other letters take the numerical value of the first class of letters that have a similarity to the figures, on account of their homophonetic analysis, or similarity in sound. The ch combination resembles g, or g soft represents the figure 6, while the hard sound of g, and the c when followed by a, o, or u, and in all cases where it takes the sound of k, represents the figure 7, while c, before i, and in all cases where it has the sound of z, represents the zero or cipher o sound.

The d, v, and b, represent the same figures as t, f, and p, from similarity of sound. Any letter representing a figure has no numerical value when it is silent, or its sound is not distinctly heard, as t in watch. Here the ch sound is distinct, but the t sound indistinct, and represents 6, and not 16, as it would if the t had a distinct sound. The k, in knife, knock, etc., has no numerical value. The l, in calf, and in all words where it is silent, has no numerical value. In the word *laugh* we have the l and f sound, which represent 58.

With these explanations we give the key to the problem of the knight of the chess-board.

By the above explanation it will be an easy task to understand how the following words will conduct the knight to 64 different squares without passing twice into the same square.

The key words are:
Hat, tide, hill, dale, moon, rock, jewry, lawyer.
Cheese, less, mill, rat, inch, pie.
Home, time, key, honor, mop, lash.
John, rule, miss, niece, make, none, enough.
Move, not, much, top, nail.
Does, your, dear, wife, name, rose, lily.
Shoot, wild, elk.
Run, leap, lame, Jim.
Rough, maid, teach, joy.
Dine, honey, dig, merry.
Europe, army, love, lion, Irish, nap.
Horror, Yankee, mummy, doff, hat.

CHAPTER V.

We have already referred to a proper training of the memory to give it strength, the same as we train our physical organism, to develop and strengthen the muscles of the body. The mind needs pleasant and healthful recreation, as much as the body. We do not send invalids to solitary wastes and deserts of inhospitable climates, where the mind is, in a manner, compelled to dwell on the gloomy surroundings, but we recommend them to the regions of sunshine; where there is a healthy atmosphere, and where there are pleasant surroundings—where the fragrance of flowers and the melody of song and other cheering influences contribute much to build up and keep in good repair the tabernacle in which the mind dwells, and through which it acts.

There is, undoubtedly, much truth in the system of treating the sick, commonly called "mind cure," or psychopathy, as some call it. The mind has a controlling influence over the body, and the physical conditions, over the mind, as well. As positive and negative electrical conditions control the universal empire of matter, so mind in nature has a controlling influence in the operations of nature.

Science is just now looking for the first stepping stone in an effort to solve the mysterious problem of

human life. One solid truth after another will finally be discovered, and humanity will reap the benefit of our advancement in knowledge. Persevering efforts will finally enable us to solve many of the apparent mysteries connected with our present mode of existence. Nature furnishes us with an abundance of objects for mental gymnastics, and we have only to pass through her vast Alhambra with our eyes open to see her beauties; and our ears open to hear her melodies; and our minds receptive to receive the impress which the Infinite Author of Nature is ready always to make upon the mind thirsting and longing for knowledge.

The following, from Southey, is a difficult piece to remember by an ordinary effort of the memory. In the exercise of mental gymnastics it became an easy and interesting task, not only to commit the whole to memory, but to know each line from the number standing before it:

THE CATARACT OF LODORE.

1. Here it comes sparkling,
2. And there it lies darkling;
3. Here smoking and frothing,
4. Its tumult and wrath in,
5. It hastens along, conflicting and strong.
6. Now striking and raging,
7. As if a war waging,
8. Its caverns and rocks among.
9. Rising and leaping,
10. Sinking and creeping,
11. Swelling and flinging,

12. Showering and springing,
13. Eddying and whisking,
14. Spouting and frisking,
15. Turning and twisting,
16. Around and around,
17. Collecting, disjecting
18. With endless rebound;
19. Smiting and fighting,
20. A sight to delight in;
21. Confounding, astounding,
22. Dizzying and deafening the ear with its sound.
23. Reeding and speeding
24. And shocking and rocking,
25. And darting and parting,
26. And threading and spreading,
27. And whizzing and hissing,
28. And dripping and skipping,
29. And whitening and brightening,
30. And quivering and shivering,
31. And hitting and splitting,
32. And shining and twining,
33. And rattling and battling,
34. And shaking and quaking,
35. And pouring and roaring,
36. And waving and raving,
37. And tossing and crossing,
38. And flowing and growing,
39. And running and stunning,
40. And hurrying and scurrying,
41. And glittering and flittering,

42. And gathering and feathering,
43. And dinning and spinning,
44. And foaming and roaming,
45. And dropping and hopping,
46. And working and jerking.
47. And heaving and cleaving,
48. And thundering and floundering,
49. And falling and crawling and sprawling,
50. And driving and riving and striving,
51. And sprinkling and twinkling and wrinkling,
52. And sounding and rounding and bounding,
53. And bubbling and troubling and doubling,
54. Diving and gliding and sliding,
55. And grumbling and rumbling and tumbling,
56. And clattering and battering and shattering,
57. And gleaming and steaming and streaming and beaming,
58. And rushing and flushing, and brushing and gushing,
59. And flapping and rapping and clapping and slapping,
60. And curling and whirling and purling and twirling,
61. Retreating and beating and meeting and sheeting,
62. Delaying and straying and playing and spraying
63. Advancing and prancing and glancing and dancing,

64. Recoiling, turmoiling and toiling and boiling,
65. And thumping and flumping and bumping and gumping,
66. And dashing and flashing and splashing and clashing,
67. And so never ending, but always descending,
68. Sounds and motions forever are blending,
69. All at once and all o'er, with a mighty uproar,
70. And this is the way the water came down at Lodore.

KEY TO THE SECOND PROBLEM OF THE CHESS BOARD.

To make this as plain as possible, without putting the most ordinary capacity to a severe mental effort, we give the key words in connection with the figures so that the study of the problem will be as agreeable to the mental, as swinging dumb-bells, or any other exercise, is to the physical. Authors frequently have their subjects so completely fixed in their own minds that they take it for granted that the reader will see it, and understand it in an instant, but this is often not true.

The key words representing figures can be retained in the memory as easily as if they expressed the most elegant sentiments in prose or poetry.

To give

THE TOTAL IN GRAINS. *We start with a gray*

mummy fop, more fog, less mud, curiosity, sweep, muss.

The words in italics are the first links of the chain which the mind takes hold of. "We start" signifies the commencement of the problem. The word *gray* suggests the idea of *grains*, and the key words give the figures as follows: me, me, fe, pe, me, re, fe, ge, le, se, me, te, ke, re, se, te, se, pe, me, se.

GRAINS IN A POUND.

He who undertakes to count the grains in one pound in a *minute* will have to be in haste, or be

Timed over.
Te, me, de, ve, re.

GRAINS IN A BUSHEL.

The man who counted the grains of wheat and *rice* in a bushel,

Kept his rice.
Ke, pe, te, se, re, se.

GRAINS IN ONE TON, OR 2,000 POUNDS.

Towns have barber shops but in the country

No chum shaves us so.
Ne, che, me, she, ve, se, se.

Divide the whole number of grains by these different proportions, and we find that it contains in POUNDS. *Pound the rogue*, we have.

No locks; officer; lock him up; chew charcoal.
Ne, le, ke, se, fe, se, re, le, ke, me, pe, che, che, re, ke, le.

BUSHELS, *bush man*,

Run for sugar; no half pay boy reward.
Re, ne, fe, re, she, ge, re, ne, fe, pe, be, re, re, de.

TONS. *Large towns* are not made by a

Wooden hovel, race union, fish pie fame.

De, ne, ve, le, re, se, ne, ne, fe, she, pe, fe, me.

Which would be worth at $1 the bushel. See key word "*bush man.*"

LOAD CANAL BOATS AT 40 TONS.

If I owned the whole and one would *sink*, I would

Mind my loss like a taker.

Me, ne, de, me, le, se, le, ke, te, ke, re.

LOAD VESSELS AT 300 TONS.

The captain of the ship would make a *servant boy*.

Run for sugar; navy pie.

Re, ne, fe, re, she, ge, re, ne, ve, pe.

Which would make as many loaves, at one pound each, as, see *Pound the rogue.*

Which would feed the population of the globe, or 1,000,000,000, at one pound a day, or 365 pounds a year, for each as long as 7,043 years, 209 days.

Gas room and newsboy.

Gn, se, re, me, & ne, se, be.

CHAPTER VI.

ILLUSTRATIONS IN MENTAL GYMNASTICS.

As already stated, the process of exercising the memory so as to fix and retain numbers, dates, and figures, to any desirable amount, is so plain and easy that the mind is at once interested, and the exercise becomes a pleasant and agreeable task, and the benefits are incalculable.

An incident will illustrate this. A short time since the author met a friend in a bookstore, and while looking at a copy of the revised version of the Bible, said, "I can commit to memory, in a few hours, every page on which the books of the old Testament commence;" and in about three hours the task was accomplished, and these numbers are easily retained in memory. Not only were the pages on which the book commences committed but the number of chapters in each book, by the following process:

First, we must find some word as a *link* by which we get the name of the object. These link words are always printed in italics to impress them upon the mind. In some instances the matter is so plain that we do not need a link word, as in Genesis.

We know that Genesis commences on the first

page, but in getting the number of chapters the book contains we must have a key word, and these key words stand alone so as to distinguish them from the sentence from which we get them. To get the number of chapters in the book of Genesis we remember

This book gives the account of our *Loss.*

Exodus: This gives an account of the *journey* of the children of Israel, and we can easily imagine that they have no *Road.*

And when Pharo pursued them they were on a *Race.*

Leviticus: *Levi* takes the priesthood with a *Gush.*

And would not take the *poor man* on his *Nag.*

Numbers: *No bars* can keep away the *Dust.*

Nor keep one from a *Mash.*

Deuteronomy: *Do it* for the law is *Adamic.*

Keep it and be *Merry.*

Joshua: *Jo shoe a* horse to make the *Head Shake.*

And he will be a *Winner.*

Judges: A *judge* of music would not play on a *Hot Fife.*

He might *lose* his *Wind.*

Ruth: Gleaning amongst the reapers was *Unsafe.*

But had no fears from an *Arrow.*

I Samuel: When Samuel *first* went to the house of Eli he was *Needed.*

But had to live *without* a *Mate.*

II Samuel: The *second* time he was called he found he had nothing to *Unmake.*

And took one from the *Owner.*

I Kings: Saul, the *first* king from David, had *No Help.*

With all his power he found himself a *Ninny.*

II. *Two Kings*, when crossing Jordan, had *No Ferry.*

But hung their garments on a *Nail.*

I Chronicles: One *crown* on a *nickel* would be rather *Massive.*

But not on a *Knob.*

II Chronicles: *Two chronic* kings in their schemes *May Miss.*

Yet men will do them *Homage.*

Ezra: *Israel* had wounds he could not *Mollifyfe.*

He left them in the *Woods.*

Nehemiah: *No hymn I* know would make his *Home Jewish.*

For he came from the race of *Adam.*

Esther: *A stir* was made because Mordecai sat at the gate *Smoking.*

And this for Haaman was a bitter *Dose.*

Job: Job's friends made him a *Muffy Home.*

But he looked at it as *Irony.*

Psalms: The psalmist did not play his *harp* with a *Rasp.*

As all who heard him could see him *Hatless.*

Proverbs: The book of proverbs was the King's *Organ.*

Because he gave many a pious *Motto.*

Ecclesiastes was a preacher while David was a *Harper.*

Because he had much *Twine.*

The Song of Songs: This *long song* was not played on an *Air Pipe.*

Nor for a *Fee.*

Isaiah: This *prophet* was an *All-seer.*

As from his writings we may *Judge.*

Jeremiah: *Cheer a man* that gives you an *Alarm.*

Especially if you are *Alone.*

Lamentations: A *lame man* cried loud and long like a *Hill Fife.*

On a *Hill.*

Ezekiel: *Is he killed?* Then put his name in your *Album.*

And do not treat him *Rough.*

Daniel: *Done well* in the lions' den as a *Tamer.*

He kept the lions *Down.*

Hosea: *A house* of worship is a *Church.*

With a large *Door.*

Joel: *Joel in* solitude is like a *Jew Alone*

Yet he may be at *Home.*

Amos: *A muss* is not good for a *Jeweler.*

Where things are thrown into a *Pie.*

Obadiah: *O a bed* is better to sleep on than a *Shelf.*

But when you lie down take off your *Hat*

Jonah was as nauseating to the whale's stomach as a dose of *Jalap*

And he was no *Hero.*

Micah: *Transparent mica* is not as good to write on as a *Few Sheet.*

Yet it may be tough as *Oak.*

Nahum: *No ham* would please him as well as a *Few Cherry.*

Which he might find at *Home.*

Habakuk: He would *have a cook* that would prepare his meals *Jewishly.*

In his own *Home.*

Zephaniah: *So fine* a prophet would prefer a boot jack to a *Shoe Jack.*

To use it in his *Home.*

Haggai: *High Gears* look like a *Few Job.*

But not so sweet as *Honey.*

Zachariah: *So carry* your burthen like a *Jack Ass.*

Though heavy as a *Deer.*

Malachi: *Mal* treatment makes many a one go *Gogging.*

And dragging like a *Harrow.*

The foregoing is only intended to illustrate the manner of forming short sentences containing *link* and *key* words upon which the memory fastens, and from which it transfers itself to other words that may have some correspondence with the *link* words, and give the word that contains the proper numbers.

It is quite likely that some will object to this and regard it as a round-about-way of getting at the word containing the number. But a fair trial and experience will soon convince the most skeptical that this process of linking one class of words with others, has a marvelous effect on the memory by giving it strength and vigor.

The words we are sometimes compelled to take may appear simple and ludicrous, but even this will enable the memory to retain them better.

We are not arranging choice words and elegant sentences, but memory shelves and hooks on which to lay or hang our words and numbers, so as to have them at a moment's notice.

To make this perfectly plain we give some illustrations from the preceding formulas:

The word Exodus at once gives the idea of a journey—of the wilderness, where there was no *road.* The word road gives 41 for the page. Now it is very plain that when Pharo pursued them, they were on a *race;* this gives the figure 40. *Levi takes* corresponds with Leviticus, *no bars* with Number, and so on through the list.

By carefully looking over the formulas again you will see how one thing hitches on to another, so as to make the chain complete.

We can present numerous illustrations to show the advantages of this system of fixing numbers in the mind by words that are not easily forgotten. Forty years ago the writer lived in the city of Baltimore, and was requested to call at No. 75 Argyle alley at a meat market, and the meat market suggested the idea of killing, and the word *kill* was fixed on, which gives 75, and this has remained in the mind over forty years.

Some time since a young lad, going to school, complained of a poor memory. When asked to remember the number of a watch which was 3985, he said he could not retain this number in his memory. I told him to remember that when the girl scrubbed the kitchen she made the *mop fly*. This he could remember without the least difficulty, and this word *mop fly* gives 3985. Now these little associations would at once commence to strengthen his memory, and by following the rules laid down in this work, he will soon be able to recollect anything he may wish to store away in his memory.

As a convenience for reference from the formulas giving the pages where the books of the Bible commence and the number of chapters in each book, we give the figures, as all Bibles are not paged in the same way, and it will be good exercise to get the figures from the formulas or words, and then refer to these figures to find them correct.

Books.	Pages.	Chapters
Genesis	1	50
Exodus	41	40

Books.	Pages.	Chapters.
Leviticus	76	27
Numbers	101	36
Deuteoronomy	137	34
Joshua	167	24
Judges	188	21
Ruth	208	4
I Samuel	211	31
II Samuel	237	24
I Kings	259	22
II Kings	284	25
I Chronicles	308	29
II Chronicles	330	36
Ezra	358	10
Nehemiah	366	13
Esther	377	10
Job	383	42
Psalms	409	150
Proverbs	472	31
Ecclesiastes	494	12
Song of Songs	499	8
Isaiah	504	66
Jeremiah	543	52
Lamentations	588	5
Ezekiel	593	48
Daniel	634	12
Hosea	646	14
Joel	652	3
Amos	654	9
Obadiah	658	1
Jonah	659	4
Micha	661	7
Nahum	664	3
Habbakkuk	665	3
Zephaniah	667	3
Haggai	669	2
Zachariah	670	14
Malachi	677	4

CHAPTER VII.

MISCELLANEOUS ARTICULATIONS.

In which some brief words give large numbers, and long words small numbers.

1. Woody, widow, headway, heath, hood, hide, ahead, weighty. 2. Honey, knew, own, now. 3. Haymow, home, my. 299. Nabob. 412. Warden, ordain, retain, written, harden. 841. Virtue, overdo, afraid, fright, freight, Friday, forehead. 851. Flight, field, fluid, fled, vailed. 859. Flap, flop, flip. 941. Bird, bright, proud, parrot, breath, brute, bread, abroad, board, part, party. 950. Policy. pulse, plus, bliss, please, hopeless, palace, applause 951. Plod, plate, build, blood, pallet, ballot, behold, ability. 1014. Destroy, twister, duster, toaster. 1421. Tornado, adorned, trinity, eternity, trained, tyrant, hydrant. 1491. Torpedo, tribute, tripod, thereabout, water-pot, turbid. 1514. Dilator, idolator, dilatory, delighter. 1714. Educator, doctor, together. 1801. Headfast, deficit, defaced, divest, devised, diffused. 901. Debased, deposed, deposit, deepest. 2140. Notorious, indorse, nitrous, wondrous, inodorous. 2142. Unitarian, undrawn, enthrown. 2480. Nervines. 2482. Nervine. 2500. Analysis. 2585. Unlawful. 2712. Nicotine. 2723.

Nickname. 2739. Encamp. 2744. Enquirer. 2810 Invidious. 2844. Inferior. 2870. Infix. 2874. Invigor. 2895. Enfeeble. 2911. Unpitied. 2942. Inborn, unborn. 2951. Unbolt. 3014. Moisture. 3023. Misname. 3052. Muslin. 3058. Himself. 3068. Mischief. 3071. Mosquito. 3078. Misgive. 3095. Misspell. 3105. Mudsill. 3114. Imitator. 3141. Matured. 3142. Modern. 3156. Mythology. 3169. Midship. 3186. Mud-fish. 3209. Mince pie. 3212. Monotony. 3247. Monarchy. 3245. Mineral. 3256. Hymnology. 3262. Mention, moonshine. 3276. Monkish. 3297. Money-bag. 3321. Moment. 3340. Memorize. 3374. Mimicry. 3395. Mumble. 3405. Morsel. 3412. Meridian. 3418. Mortify. 3432. Mormon. 3470. Marquis. 3495. Marble. 3510. Melodious. 3517. Homoletic. 3540. Mill-race. 3601. Majesty. 3720. Meekness. 3275. Mongolia. 3726. Magnesia. 3728. Magnify. 3741. Emigrate. 3745 Mackerel. 3940. Impress. 3943. Emporium. 3947. Embark. 3953. Emblem. 4034. Rosemary. 4075. Rascal. 4107. Heartsick. 4134. Redeemer 4149. Wardrobe. 4150. Artless. 4175. Article. 4177. Earthquake. 4213. Random. 4264. Ranger. 4286. Hornfish. 4391. Armpit. 4751. Haircloth. 4848. Riffraff. 4885. Revival. 4921. Urbanity. 4947. Rubric. 4960. Rapacious. 5012. Hailstone. 5072. Eelskin. 5090. Allspice. 5157. Lady-like. 5197. Lady-bug. 5204. Lancer. 5264. Lounger. 5394. Lumber. 5701. Laxity. 5727. Laconic. 5742. Alcoren. 5891. Alpha-

bet. 6049. Jewsharp. 6161. Chit, chat. 6245. General. 6264. Ginger. 6425. Journal. 6791. Jacobite. 6952. Chaplain. 7062. Oxygen. 7070. Excuse. 7071. Exact. 7091. Exhibit. 7094. Expire. 7103. Egotism. 7109. Catsup. 7115. Cat-tail. 7129. Kidnap. 7174. Category. 7175. Cat-call. 7212. Canadian. 7270. Equinox. 7275. Kingly. 7284. Confer. 7375. Comical. 7401. Crest, grist, crust, corset. 7404. Grocery, grazer, grocer. 7408. Aggressive. 7409. Grasp, crisp, crossbow. 7411. Graduate, greeted, courted, credit. 7420. Greenhouse, cornice, grains, eagerness. 7424. Grainer, corner. 7427. Crank. 7439. Crimp, cramp. 7454. Growler, crawler. 7456. Girlish. 7460. Gracious. 7471. Correct. 7487. Graphic. 7485. Gravel. 7495. Grapple. 7503. Gleesome. 7509. Clasp. 7512. Gladden. 7524. Gleaner. 7526. Clannish, clownish. 7531. Calumet, climate. 7544. Clearer. 7546. Clergy. 7547. Clerk. 7548. Glorify. 7550. Guileless. 7569. Coal-ship. 7584. Glover. 7611. Cogitate. 7697. Cashbook. 7715. Cocktail. 7741. Go-cart. 7743. Cook-room. 7750. Goggles. 7794. Cow-keeper. 7854. Cavalry. 7918. Captive. 7941. Copyright. 7954. Cobbler. 7970. Cow-pox. 7997. Copy-book. 8014. Faster. 8018. Festive. 8081. Phosphate. 8084. Phosphor. 8130. Ofttimes. 8145. Vitriol. 8216. Vintage. 8274. Vinegar. 8322. Feminine. 8350. Fameless. 8354. Familiar. 8401. First.

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